VALUE DRIVERS OF BANK EQUITY MARKET PRICE

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A R T I C L E   I N F O

A B S T R A C T

The Indian banking sector has shown robustness and resilience in the face of challenges on account of rising non-performing assets and economic upheavals. The market value of bank equity is a reflection of the financial performance of banks and macroeconomic factors. 22 bank-specific variables and 5 macroeconomic factors representing profit management, capital management, shareholder value management and risk and leverage management, India's Real GDP Growth Rates (Factor Cost), Money Supply growth, Bank Credit growth, Deposit growth rate and Inflation are used in this study. 19440 observations are examined from the financial data of 40 commercial banks (private and public sector banks for a period of eighteen years. The data is analyzed using panel regression. Hausman and Pagan's test was conducted to find the best-fit model. The results show that Finance Charge Coverage (FCCR), Advance Loan funds, Current Ratio, Beta and Asset Turnover have a negative impact on bank equity value and Activity Mix, Revenue Efficiency, Earnings Retention, and Cost Management shows a positive significant relationship with equity value. Factors like FCCR affects the market values of public sector banks and private sector banks differently Growth in GDP, Inflation shows a positive relationship with the market value of bank equity. Growth in Money Supply has a differential impact on the market value of private sector banks and public sector banks. The results provide useful insights to understand the determinants of the market value of bank equity. It can help bankers frame strategies to maintain and enhance the market value of their equity.

INTRODUCTION

Bank is a complex system with many performance centers interconnected in a nonlinear fashion, the synergy of this performance center will determine the banks overall performance leading to the maximization of bank market value and stability. In recent trends India economy has been on high growth trajectory crediting unprecedented opportunities for banking sector. Indian banking sector is growing rapidly and performing remarkably well as compared to other banks in World, Sengupta and Thomas (2007).

According to an IBA-FICCI-BCG report titled 'Being five star in productivity – road map for excellence in Indian banking". India's gross domestic product (GDP) growth will make the Indian banking industry the third largest in the world by 2025". According to the report, the domestic banking industry is set for an exponential growth in coming years with its assets size poised to touch USD 28,500 billion by the turn of the 2025.

Even though Indian banks are currently facing a great deal of difficulties, including increased capital adequacy requirements, improved branch sales and services, improved organizational design, frequent changes in policy rates to maintain economic stability, various regulatory requirements using innovative technology through new channels, working on lean operations, and managing non-performing assets, Indian banking is still showing signs of growth and has enormous potential for expansion in India.

LITERATURE REVIEW

There are many studies which indicates and measured the growth in productivity and efficiency of banks and reduction in

cost, Tyagarajan (1975), Rangarajan and Mampilly (1972) and Subrahmanyam and Swami (1993), Kumbhakar and Sarkar (2003); Shanmugam and Das (2004); Das et al. (2005), Sensarma (2005), Rajan, Reddy, and Pandit (2011), cost minimization so as to increase efficiency in immensely competitive and growing trend, Mohan (2008), contribution of Indian banks in development of economic activity, Jadhav and Ajit (1996) and bank efficiency in the post liberalization period, Mahesh and Bhide (2008).

As the performance of Indian banking sector is continuously showing a growing trend, investors are interested in investing in the banking sector. In order to safeguard the interest of shareholder, framing of Bank Valuation model to drive a perfect shareholder value by considering external and internal value drivers of banks suitable to developing economy like India has become very essential.

Creating sustainable and growing shareholder value has been the banks' top priority. Copeland evaluations of banks can help them achieve this goal. An integrated model that takes both internal and external value drivers into account and performs valuation for the generation of shareholder value and risk management is necessary. Finding these value drivers is a crucial first step in enabling banks to manage their businesses with shareholder value as their primary objective, according to Rappaport (1999). It is also necessary to choose a model with a significant link to share market price.

Banks are very different from non-banks when it comes to the construction of their business model Gross (2007). Looking at the products, non-banks in general occurs risk as a side-effect of doing business while banks has managing, incurring, structuring and assessing financial market risk as one of their core business activities. By taking this risk, they provide the service of storing value and extending credit, acting as intermediaries between parties with funding surpluses and deficits Koller, Goedhart, and Wessels (2010). This gives banks a very central function in the modern economy but it also makes them heavily dependent of the overall economy. As there are few studies have been reported in literature related to empirical adequacy of bank valuation context, further scope for research emerges.

There is also need to know the relationship between the intrinsic value and market price as it can be used for forecasting the future market price and also for taking necessary decision regarding investment and key policies by investor, management, banks and Government. There is also need to understand and find the key Value drivers impacting and market price of banks as it will help to determine and find solution for increase or decrease of value of share

Value drivers can be defined as all factors that influence the value creation of a bank as value drivers. In order to develop model which will help to maximize shareholder value a key internal and external value driver has to be investigated. Valuation of bank in particular is highly influenced by the external and internal value drivers which are interconnected and thus has valuation of bank depends value drivers such as Internal factors such as Cost management, Capital management, Leverage management, Profit management and External factors such as Banking industry structure, its rules & regulation, its system, Macroeconomic environment and Economic environment. Empirical evidence for value drivers specific to banks is very few and therefore there is a need for empirical studies in which the potential value drivers for different bank types are measured and ranked. The implications for bank management derived from such evidence could then serve as a basis for value creation within banks.

Internal value drivers are factors relating to the inherent performance of a bank, whereas external drivers result macro-economic factors environment of a bank. External drivers relate to specific factors and trends in the banking industry as well as to factors concerning the general economic environment.

According to Fiordelisi and Molyneux (2007), various determinants such as market structure, bank efficiency, adjusted loan and deposit growth rates, staff costs, financial structure and operational and credit risk impact on shareholder value creation in European banking between 1997 and 2002. He found that bank's cost and profit efficiency have a positive influence on shareholder value. Leverage is found to be inversely related to value creation suggesting that highly capitalized banks are more likely to generate value for their owners compared with lowly capitalized counterparts. Other factors that are found to impact positively on value creation include adjusted annual deposits growth rate, industry concentration, bank market share and employee costs. He found that quoted banks (listed banks) are not good at creating shareholder value as compared to non-quoted (non-listed banks) counterparts, although they found some substantial variations in shareholder value creation across European countries and bank ownership types over time.

Koller, Goedhart, and Wessels (2010) it is clear from the model, that the cost-income ratio is an important driver and calculated as operating expenses divided by net interest income. ROA and revenue growth it will increase shareholder value significantly. Looking at the products, non-banks in general occurs risk as a side-effect of doing business while banks has managing, incurring, structuring and assessing financial market risk as one of their core business activities. By taking this risk, they provide the service of storing value and extending credit, acting as intermediaries between parties with funding surpluses and deficits, this gives banks a very central function in the modern economy but it also makes them heavily dependent of the overall economy.

Gross (2007), states that shareholder value has become the pre-eminent performance measure in many industrial

companies and it has significantly affected how some banks in recent years have tried to optimize their business. The objective of the paper by Gross (2007) is to find the metrics that are able to quantify the story behind shareholder value and to understand the fundamental drivers of value. The findings in suggest that only the cost efficiency and the risk capabilities relevant drivers for shareholder value in banks. Whereas, both the business mix and the branch structure driver is difficult to make any reliable conclusions on, due to their ambiguity. The regression results for the business mix suggest that an increased income diversification is value destroying in the short-term. Results for the underlying income cost and risk structure for the bank is somewhat controversial as well. Looking at the branch structure there is no empirical evidence for the value impact of changes in the branch structure and it is therefore concluded that it has no direct impact on value. Potential value implications are instead driven by the interdependence of the branch structure and the different value drivers. Baele, De Jonghe, and Vander Vennet (2007), in his studies business mix as first driver, where income diversification (non-interest income) is used as a measure and finds strongly positive correlations between shareholder value and the degree of diversification. In order to measure Leverage he has taken ratio of equity to assets, found it has negative and is not significant to shareholder value. In order measure cost efficiency, cost-income ratio was taken and found that it has negative impact on value creation of the banks who go for diversification. In order measure risk, loan loss provision was taken as value driver and result was that it had positive impact on shareholder value but test was not significant

Shareholder value management has for many years been a dominating management concept and a performance indicator for companies all over the world. However, more than twenty years after the ground-breaking book by Copeland Thomas, Koller, and Murrin (1994) still only few articles have discussed shareholder value management in connection to banks and none of these have had both an internal and an external view. As very few articles are published from the academic side, there was need to study the report published by consulting companies regarding this subject. Globally many consulting companies have published report on bank profitability and productivity but only few have worked on creation of shareholder value.

According to the consulting industry, the maximization of shareholder value is therefore a strong performance measure where managers are forced to make value creating decisions. Articles from McKinsey & Company and BCG have been applied since academia does not discuss their findings on such an operational level.

Visalli et al. (2011) McKinsey: ROE and cost of equity are the main drivers for creation of shareholder value. The increasing regulation is the single most important driver when it comes to profitability. Due to the heavy capital constraints, equity capital and funding costs will increase which is expensive for banks. Increased regulatory constraints will impact the key drivers through a set of underlying value drivers. ROE will be affected both in the numerator and the denominator. Return will be negatively impacted due to the increasing cost of holding equity and higher operational costs whereas the common equity in the denominator will increase. This expected decrease in ROE is also the main reason for the negative TSR in the years after the crisis. Banking TSR have been significantly higher in those countries that have experienced growth compared to those where a flat development have been seen. This indicates that those banks, capable of capturing revenue growth will be able to increase shareholder value. The shift in consumer behavior to a more technology-driven behavior will affect the cost driven value driver. By closing branches or making them smaller bank managers will be able to decrease the cost-income ratio which is also expected to affect shareholder value positively. However, as is always the case with change, only the banks capable of adapting to the changing environment will benefit from it. Those banks not capable of delivering superior customer experience to a new generation of self-helped customers will have a hard time competing. If the country has a low credit rating it will affect the banks credit rating, higher the lending costs and thereby make it difficult to compete across borders and be more vulnerable to foreign competitors with higher credit ratings.

Dayal et al. (2010) (BCG): According to author revenue growth is one of important value driver, based on the development in emerging market for creating shareholder value. Achieving revenue growth is however very difficult. The reason for this low growth in developed economies is not due to a decreasing focus from the top management but more because of the challenges in increasing revenue per customer. Risk cost has been the main driver of negative value creation since the start of the crisis and effect can be seen in years to come.

Black and Wright (1998) (PWC): Author has taken residual income as the dependent variable. According to him banks growth can be increased by gaining competitive advantages. The competitive advantage period that the bank has is measured as the period where the bank is capable of earning a higher operating return than their cost of capital (positive residual income). Other Growth drivers such as operating assets which is made up of loans and other earnings assets (short term assets, long term positions in investments, loans to banks etc.) is very key driver for increasing shareholder value as even though they do not directly affect the cash flow but indirectly every loan creates deposits and there by creates value (given that net interest margin is positive). Net interest margin and on-interest income, which is made up of fees, commissions and trading income (this is other operating income in the data) drive value positively. The cost-income ratio is considered as best value driver for creation of shareholder value. Regulatory requirements (the amount of equity that is

needed to maintain capital adequacy) is found significantly affect the shareholder value.
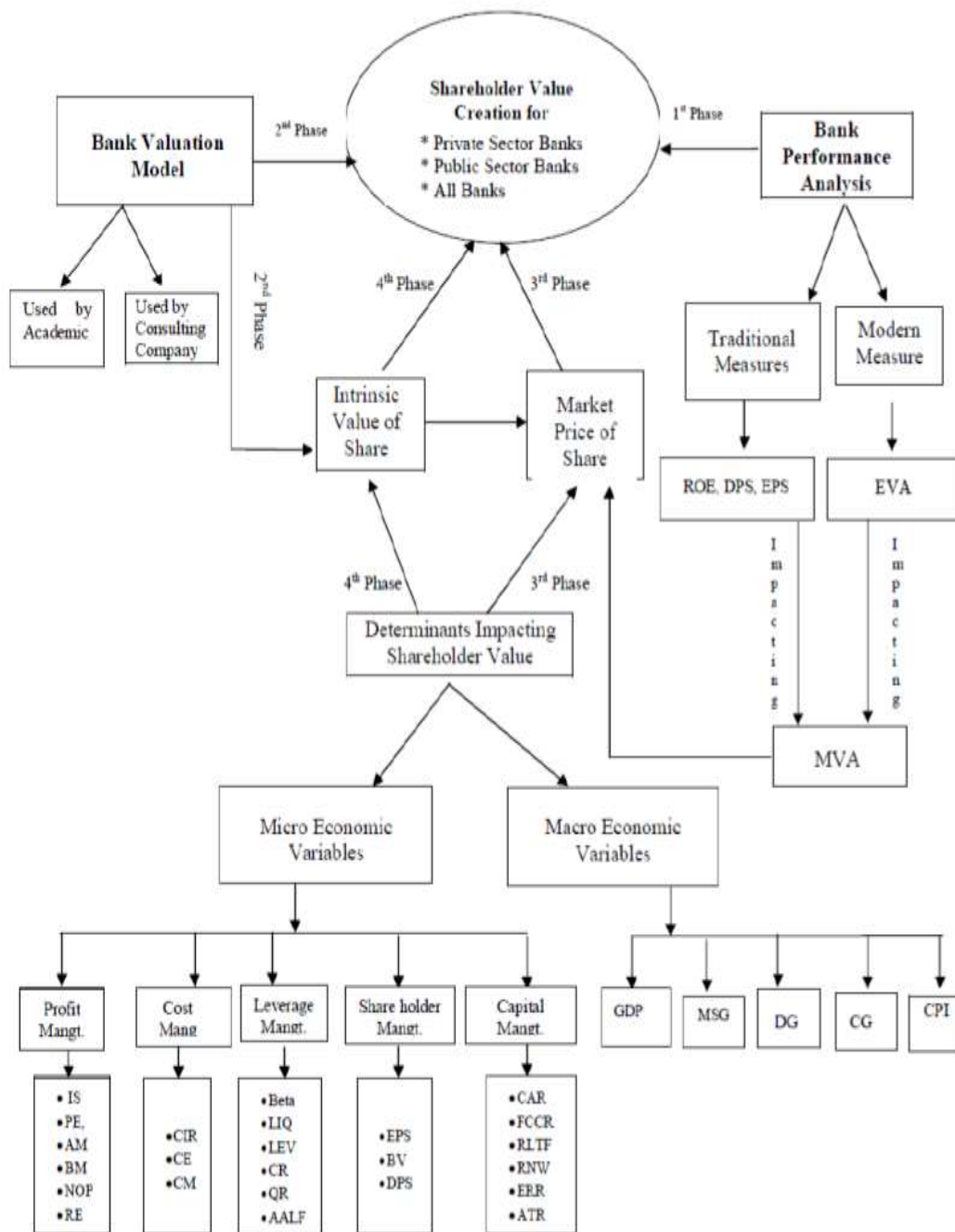

Figure 1. Framework for determinants of shareholder Value

Proposed framework for the determinants of shareholders value in Indian Banking by Dr Chitra Gounder from this study and all other research work done previously related to Bank Value creation.

MATERIALS AND METHODS

This empirical study which will help the Indian banks to create value for shareholder and also understand the key determinants impacting the creation of shareholder value by analyzing and interpreting the impact of Bank specific and country Economic value drivers on market price of equity share.

The present work has considered 40 Indian commercial banks and the time period is from 2001 to 2018. The macro and micro economic data has been collected from Data book of planning commission, RBI, CMIE -prowess and from the annual reports of each bank. The data collected for the present analysis is arranged in panel data form as 40 units (banks) were considered for 18 years so it is combination of times series data and cross-sectional data. So, the relationship between the dependent and independent variables is obtained from a regression model called panel regression analysis.

Empirical study for all below given was classified in private sector banks, public sector banks and all banks which included both private and public sector. The commercial banks are only considered for study in order to avoid the

dissimilarity of the banking operations with other type's banks. Panel data may have group effects, time effects, or the both, which are analyzed by pooled effect, fixed effect and random effect models. In order to select appropriate panel regression model for estimating result, we had applied Hausman test and Bruesh and Pegan IM test.

From detail literature review of academics and reports of analyst determinants are identified which can impact the market price. This study is essential as to know exactly which value drivers impacts the value of share so that proper measure can have adopted for value creation of share.

Variables Selected for Study
Dependent Variables:
- Market price of bank stocks: Market price of equity shares is used to represent market value.
Independent variables
- Micro (Bank Specific)
- Macro-Economic Determinants as already proposed in the study above.

Micro Determinants (Bank Specific)
This is the internal determinants of individual banks. This is again categorized into five broad categories:

Table 1. Variables used in the study

Profit Management:

a) Profit efficiency (PE)	a) **Cost Income ratio (CIR)**
b) Activity mix (AM)	b) Cost efficiency (CE)
c) Business mix (BM)	c) Cost management (CM)
d) Net Operating Profit per Share (NOP)	
e) Revenue efficiency	

Capital Management:	**Risk and Leverage Management:**
a) Capital Adequacy Ratio (CAR)	a) Beta (Beta)
b) Financial Charges Coverage Ratio (FCCR):	b) Liquidity
c) Return on Long Term Fund (%) (RLTF)	c) leverage
d) Earning Retention Ratio (ERR)	d) Current Ratio (Current ratio)
e) Asset Turnover Ratio (ATR)	e) Quick Ratio (Quick ratio)
	f) Advances / Loans Funds (%) (AALF)

Shareholder Management:

a) Earnings per Share (EPS)
b) Book Value (BV)
c) Dividend per Share (DPS)

Macroeconomic Determinants Selected for Study
- a) India's Real GDP Growth Rates (Factor Cost) (GDP %)
- b) Money Supply growth (MSG%)
- c) Bank Credit growth (BCg%)
- d) Deposit growth (Dg%)
- e) Inflation CPI (Average

Panel Regression model for Micro (Bank Specific) Determinants of Bank Market price

$$MP_{it} = \pi_0 + \pi_1 IS_{it} + \pi_2 PE_{it} + \pi_3 AM_{it} + \pi_4 BM_{it} + \ldots\ldots\ldots . \; + \mathcal{E}_{it}$$

Panel Regression model for Macro (Country Specific) Determinants of Bank Market price

$$MP_{it} = \pi_0 + \pi_1 GDP_{it} + \pi_2 MSG_{it} + \pi_3 BCG_{it} + \pi_4 DG_{it} + \ldots\ldots\ldots . \; + \mathcal{E}_{it}$$

RESULTS AND DISCUSSIONS
Multicollinearity test for identifying of Micro and Macro determinants (bank specific) variables

- **Correlation Matrix of Micro Determinants (Bank Specific) for Private Sector Banks**

Through correlation matrix we can see there is high correlation between some variables so the solution for this multicollinearity is dropping variables such as CIR, RLTF, EPS, BV and DPS. Accept the variable identified as multicollinearity all other variables will be considered for multiple regressions for study of Impact of determinants on MP and intrinsic value of bank share. In Case of Macroeconomic variable for private sector, as per multicollinearity test DG% was dropped.

- **Correlation Matrix of Micro Determinants (Bank Specific) for Public Sector Banks**

Through correlation matrix we can see there is high correlation between some variables So the solution for this

multicollinearity is dropping variables such as PE, BM, CE, FCCR, CR, AALF, EPS, BV and DPS .Accept the variable identified as multicollinearity all other variables will be considered for multiple regressions for study of Impact of determinants on MP and intrinsic value of bank share. In Case of Macroeconomic variable for Public sector, as per multicollinearity test DG% & BCG% was dropped.

- ▪ **Correlation Matrix of Micro Determinants (Bank Specific) for All Banks**

Through correlation matrix we can see there is high correlation between some variables so the solution for this multicollinearity is dropping variables such as EPS, BV, BM and DPS. Accept the variable identified as multicollinearity all other variables will be considered for multiple regressions for study of Impact of determinants on MP and intrinsic value of bank share. In Case of Macroeconomic variable for all banks, as per multicollinearity test DG% was dropped.

- ▪ **Micro Determinants (Bank Specific) Impacting the Market Price of Private Sector Banks**

Table 2. Panel Regression Model 1

Particulars	Panel Regression Models					
	Pooled Regression Model		Fixed Effect Model		Random Effect Model	
const	857.504	***	562.498	***	739.317	***
AM	19.9286	***	13.7116	***	15.094	***
NOP	0.809339	***	0.7794	***	0.809956	***
RE	-37.7454	***	-1.17741		-17.2892	
CM	8.21668	***	8.56796	***	7.27919	**
FCCR	-58.4849		-114.828	***	-97.9053	***
RNW	6.25491	*	-7.01777	**	-1.62669	
ERR	0.0104349		-0.0715895		-0.0281054	
ATR	-0.8382		1.45382		0.25137	
Beta	-59.9767		-70.7254		-82.7498	*
LEV	-31.8208	***	-15.9903	***	-25.0803	***
CR	-241.737		-2679.76	***	-1230.5	
QR	-6.13041	*	-2.54609		-4.02272	
AALF	-2.31539	*	-1.17807		-1.54479	
R-squared	0.588532		0.798345			
Adjusted R-squared	0.562182		0.768311			
P-value(F)	1.81E-32		4.32E-51			
Durbin-Watson	0.577492		0.90777			
rho	0.690046		0.513731			
Breusch-Pagan test	p-value = 2.42279e-025		So Random effect model has to be selected			
Hausman test	p-value = 1.00388e-010		So Fixed effect model has to be selected			

In this case Breusch-Pagan test was found significant, RE Model was selected and Hausman test was significant, FE Model was selected. So Panel Regression Model showing Impact of Micro Determinants (Bank Specific) on Market Price of Private Sector Banks as per Fixed effect model is

$MP_{it} = 562.49 + 13.71AM_{it} + 0.77 NOP_{it} - 1.17RE_{it} + 8.56CM_{it} - 114.82FCCR_{it} - 7.01RNW_{it} - 0.07ERR_{it} + 1.45ATR_{it} - 70.72Beta_{it} - 15.99LEV_{it} - 2679.76CR_{it} - 2.54QR_{it} - 1.17AALF_{it} + €_{it}$
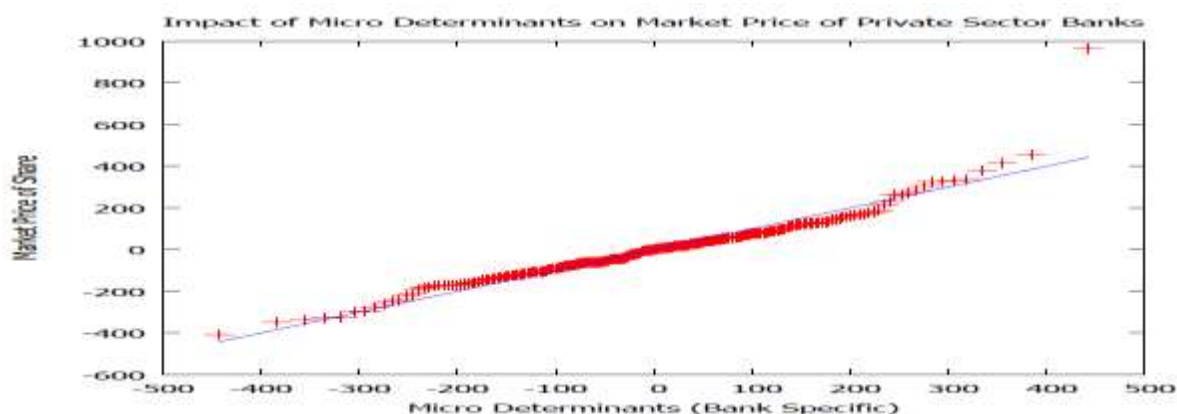

Figure 2. Micro Determinants- Private sector banks

In above model, the coefficient of constant parameter of the banks shows a positive figure of 562.498, which implies that if all the explanatory variables held constant, the dependent variable RIV increases by 562.498 units. It is showing the strong Positive significant relationship at 1%significant level. Variables such as, RE, FCCR, RNW, EV, CR,

QR, and AALF are showing strong negative relationship which indicates that this variable are inverse proportionally related to dependent variable. Variables such as AM, NOP, CM, ERR, ATR and Beta has s positive significant relationship are direct proportionally related to dependent variable. AM, NOP, RE, FCCR, RNW, LEV and CR significant relationship.

So by above analysis, model can be interpreted as fit model for defining the Impact of micro determinants variable on Market price of Private Sector Banks share.

Macro-Economic Determinants Impacting the Market Price of Private Sector Banks
Table 3. Panel Regression Model 2

Particulars	Panel Regression Models					
	Pooled Regression Model		Fixed Effect Model		Random Effect Model	
const	68.9066		24.6619		18.0255	
GDP_	22.096	*	23.6716	***	23.555	***
MSG_	-11.3875		-10.6666	*	-10.7181	*
BCG_	-0.655432		-0.888813		-0.869836	
INF	40.2216	***	43.8855	***	43.6191	***
R-squared	0.122416		0.627211			
Adjusted R-squared	0.106674		0.593158			
P-value(F)	6.96E-06		9.20E-35			
Durbin-Watson	0.2688		0.651749			
rho	0.903232		0.657356			
Breusch-Pagan test	p-value = 2.64614e-101		So Random effect model has to be selected			
Hausman test	p-value = 0.767961		So Random effect model has to be selected			

In this case Breusch-Pagan test was found significant, RE Model was selected and Hausman test was not significant, RE Model was selected. So Panel Regression Model for Impact of Macro Economic Determinants on Market Price of Shares of Private Sector Banks as per Random effect model is

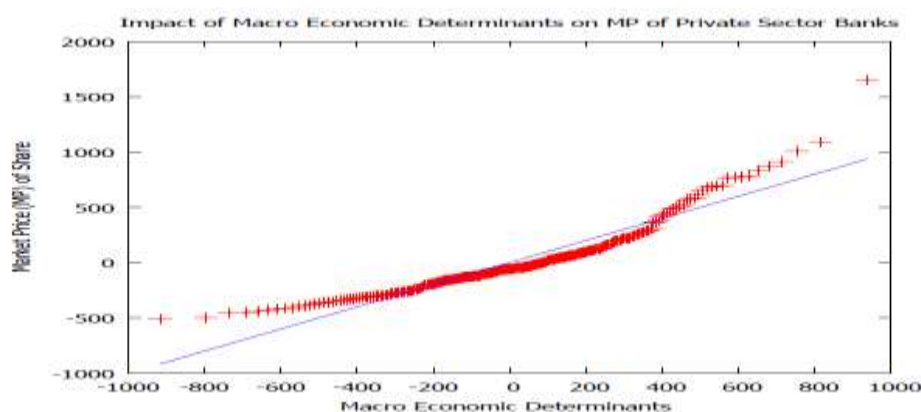$$MPit = 18.02 + 23.55 \ GDPit - 10.71MSGit - 0.86 \ BCG \ it + 43.61 \ INF \ it + €it$$

Figure 3. Macro-economic determinants- Public sector banks

In above model, intercept is showing the non-significant relationship. All independent variable except BCG are showing significant relationship. Variables MSG is showing negative significant relationship which indicates that this variable is inverse proportionally related to dependent variable market price of bank share. Variables such GDP, and Inflation has strong positive significant relationship are direct proportionally related to dependent variable market price of bank share.

So by above analysis, model can be interpreted as fit model for defining the Impact of macro determinants variable on market price of banks share.

Micro Determinants (Bank Specific) impacting the Market Price of Public Sector Banks:
Table 4. Panel Regression Model 3

Particulars	Panel Regression Models					
	Pooled Regression Model		Fixed Effect Model		Random Effect Model	
const	458.37		905.776		495.26	
IS	-0.00492754		0.138773		0.00209788	
AM	7.38801		10.5155		7.60673	
NOP	0.63594	***	0.659268	***	0.636824	***
RE	-139.806	***	-228.98	***	-146.044	***

CAR	52.9508	*	49.991		52.7435	*
RLTF	2.56887		7.27254	**	2.87925	
RNW	4.08235		5.40438		4.22253	
ERR	2.519		3.17737		2.5315	
ATR	-60.0255	***	-62.5184	***	-60.0942	***
Beta	9.7594		87.9809		13.4194	
LIQ	-254.319		-237.252		-259.726	
LEV	-21.9921		-40.2896	**	-23.2595	
R-squared	0.675659		0.718807			
Adjusted R-squared	0.661955		0.6811			
P-value(F)	2.79E-62		1.54E-53			
Durbin-Watson	0.644112		0.75549			
rho	0.642418		0.579619			
Breusch-Pagan test	p-value = 0.0106292		So Radom effect model has to be selected			
Hausman test	p-value = 0.0153358		So Fixed effect model has to be selected			

In this case of Public Sector, a bank Breusch-Pagan test was found significant, RE Model was selected and Hausman test was significant, FE Model was selected. So Panel Regression Model for Impact of Micro Determinants (Bank Specific) on Market Price of Public Sector Banks as per fixed effect model is

MPit = 905.77 + 0.13 IS it + 10.51 AM it + 0.65 NOP it - 228.98 RE it + 49.91 CAR it   + 7.27 RLTF it + 5.40 RNW it + 3.17 ERR it – 62.51ATR it +87.98 Beta it – 237.25 LIQ it   - 40.28 LEV + €it
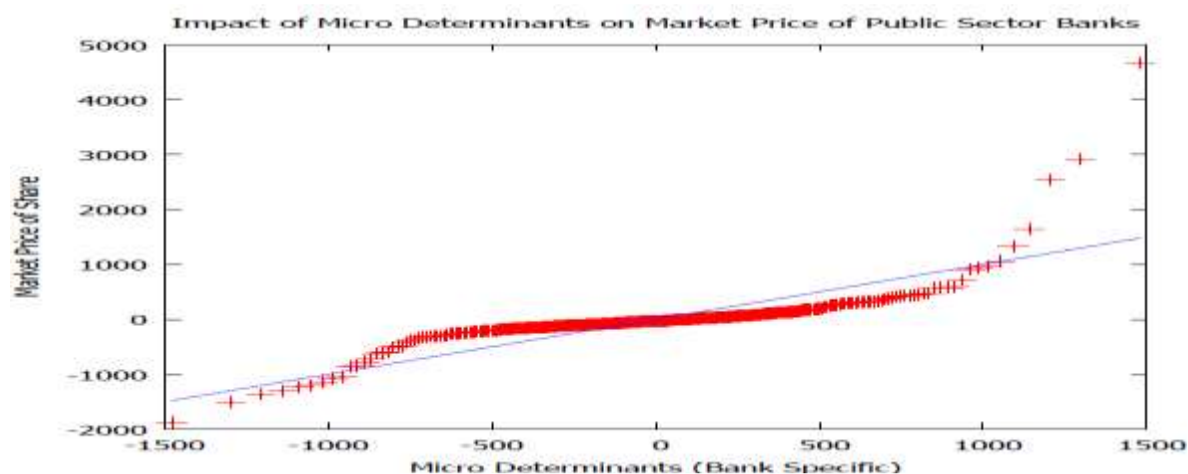

Figure 4. Micro determinants – Private sector banks

In above model, the coefficient of constant parameter of the banks shows a positive figure of 905.776, which implies that if all the explanatory variables held constant, the dependent variable RIV increases by 905.776units Determinants such RE, ATR, LEV and LIQ are showing negative relationship which indicates that this variable is inverse proportionally related to dependent variable. Determinants such as AM, NOP, CAR, RLTF, RNW, ERR and Beta has positive relationship are direct proportionally related to dependent variable. NOP, RE, RLTF, ATR and LEV are showing strong significant relationship with Market price of share.

So by above analysis, model can be interpreted as fit model for defining the Impact of micro determinants variable on Market price of Public Sector Banks share.

Macro Economic Determinants impacting the Market Price of Public Sector Banks
Table 5. Panel Regression Model 4

Particulars	**Panel Regression Model**					
	Pooled Regression Model		Fixed Effect Model		Random Effect Model	
const	-735.495	**	-847.879	***	-863.281	***
GDP_	70.0747	**	79.9638	***	78.6145	***
MSG_	43.6008	**	39.9238	***	40.6842	***
INF	-7.00184		7.05021		4.42916	
R-squared	0.052663		0.433246			
Adjusted R-squared	0.043406		0.38136			
P-value(F)	0.00084		1.13E-22			
Durbin-Watson	0.34984		0.596438			

rho	0.824728	0.688943
Breusch-Pagan test	p-value = 1.77428e-064	So Random effect model has to be selected
Hausman test	p-value = 0.262174	So Random effect model has to be selected

In the case of macroeconomic determinants impacting market price of public Sector Banks Breusch-Pagan test was found significant, RE Model was selected and Hausman test was not significant, RE Model was selected. So Random effect model is

$$MP_{it} = -863.28 + 78.61\ GDP_{it} - 40.68\ MSG_{it}\ -0.86\ BCG_{it} + 4.42\ INF_{it} + \epsilon_{it}$$
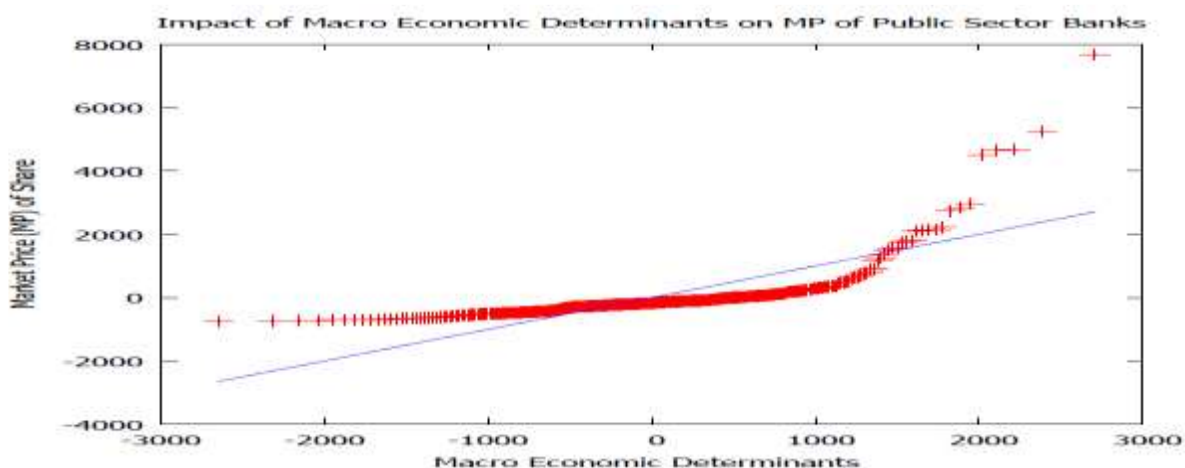
Figure 5. Macro determinants – Public sector banks

In above model, intercept is showing the strong negative significant relationship. All independent variable except INF are showing significant relationship. Variables such GDP and MSG has strong positive significant relationship are direct proportionally related to dependent variable market price of bank share.

So by above analysis, model can be interpreted as fit model for defining the Impact of macro determinants variable on market price of banks share.

Micro Determinants (Bank Specific) impacting the Market Price of All Banks
Table 6. Panel Regression Model 6

Particulars	Panel Regression Models					
	Pooled Regression Model		Fixed Effect Model		Random Effect Model	
const	-283.839		-707.276		-419.729	
PE	16.8065		18.0166		18.0133	
AM	9.88642		10.711		10.0422	
NOP	0.626249	***	0.678418	***	0.636224	***
RE	-2.71906		-128.296	***	-34.2211	
CIR	8.57237		5.13075		7.59354	
CE	-71.9356		121.405		-16.1177	
CM	-3.5252		0.495391		-2.20992	
CAR	20.4532		27.178	*	22.1132	
FCCR	-45.0724		14.2745		-26.8979	
RLTF	-1.85817		-1.11198		-1.86326	
RNW	-2.69844		2.95222		-1.4901	
ERR	-0.0849578		0.0560903		-0.042395	
ATR	-40.691	***	-29.8863	**	-37.9275	***
Beta	1.10705		24.9892		4.19245	
LIQ	-277.041	**	-386.798	***	-304.187	**
QR	-9.02199	**	-5.14925		-8.14615	**
AALF	4.21769	**	7.81445	***	5.1931	**
IS	0.0437244		0.0206877		0.0298957	
R-squared	0.660891		0.72314			
Adjusted R-squared	0.648434		0.688149			
P-value(F)	1.20E-102		1.14E-93			
Durbin-Watson	0.644545		0.779155			
rho	0.643759		0.571797			
Breusch-Pagan test	p-value = 8.65723e-006		So Random effect model has to be selected			
Hausman test	p-value = 3.92761e-005		So Fixed effect model has to be selected			

In case study of impact of micro determinants on all banks market price Breusch-Pagan test was found significant so RE Model was selected and Hausman test was significant so FE Model was selected. So Fixed effect Panel Regression Model for Impact of Micro Determinants on Market Price of shares of All Banks is

MPit = - 707.27 + 18.01 PE + 10.71 AM it + 0.67 NOP it - 1.28 RE it + 5.13 CIR it + 121.40 CE it + 0.49 it CM + 27.17 CAR + 14.27 FCCR it   - 1.11 RLTFit + 2.95 RNW it + 0.05 ERR it – 29.88 ATR it + 24.98 Beta it -386.79 LEV it - 2679.76 CR it - 5.14 QR it – 7.81 AALF it + 0.02 IS it €it
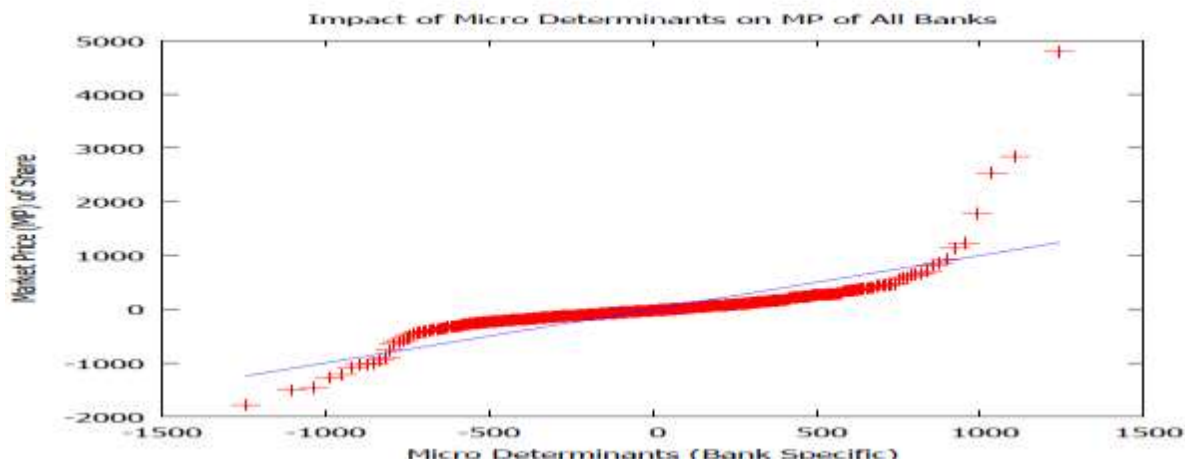
Figure 6. Micro determinants – All banks

In above model, the coefficient of constant parameter of the banks shows a negative figure of -707.276 which implies that if all the explanatory variables held constant, the dependent variable RIV decreases by 707.276 units. It is showing the negative significant relationship with market price. Variables such as RE, RLTF, LIQ,QR, and ATF are showing strong negative relationship which indicates that this variable are inverse proportionally related to dependent variable. Variables such as IS, AM, NOP, CIR, CE, CAR, FCCR, RNW, Beta, CM, ERR and ATR has s positive significant relationship are direct proportionally related to dependent variable. Determinants such as NOP, RE, CAR, ATR, LIQ and AALF is strong significant relationship with market price.

So by above analysis, model can be interpreted as fit model for defining the Impact of micro determinants variable on Market price of all banks.

Macro-Economic Determinants impacting the Market Price of All Banks:
Table 7. Panel Regression Model 6

Particulars	Panel Regression Models					
	Pooled Regression Model		Fixed Effect Model		Random Effect Model	
const	-411.279	*	-489.982	***	-502.542	***
GDP_	50.4004	***	55.2926	***	54.6378	***
MSG_	20.5637	*	18.8258	*	19.1998	**
BCG_	-0.140071		0.0123963		0.0154693	
INF	13.3334		22.9672	*	21.3072	*
R-squared	0.036002		0.433145			
Adjusted R-squared	0.028781		0.383903			
P-value(F)	0.000594		9.65E-39			
Durbin-Watson	0.33501		0.579667			
rho	0.835981		0.699054			
Breusch-Pagan test	p-value = 5.85916e-115		So Random effect model has to be selected			
Hausman test	p-value = 0.339098		So Random effect model has to be selected			

In case of Impact on Macro Determinants on All Banks Market price, Breusch-Pagan test was found significant so RE Model was selected and Hausman test was not significant so RE Model was selected. So Random Effect Panel Regression Model for Impact of Macro Economic Determinants on Market Price of Shares of All Banks is

MPit = - 502.54 + 54.63 GDPit – 19.19 MSGit - 0.01 BCG it + 21.30 INF it + €it
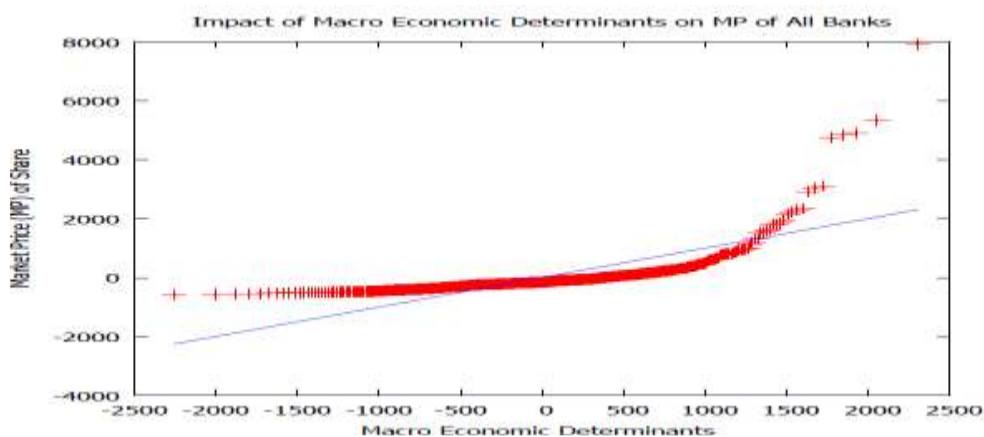
Figure 7. Macro determinants- All banks

The coefficient of constant parameter of the banks shows a negative figure of -502.542, which implies that if all the explanatory variables held constant, the dependent variable market price decreases by -502.542 units. In above model, intercept is showing the non-significant relationship. All independent variable except BCG are showing non-significant relationship. Variables such GDP MSG and Inflation has strong positive significant relationship are direct proportionally related to dependent variable market price of bank share.

So by above analysis, model can be interpreted as fit model for defining the Impact of macro determinants variable on market price of banks share.

CONCLUSIONS

Empirical study regarding Micro (Bank Specific) and Macroeconomic Determinants impacting the market price of equity share of Private Sector Banks, Public Sector Banks and All Banks were made. All study models were good fit as p value (F) is 0.000. So it can be analyzed that model as fit model for defining the Impact of Micro and Macro determinants variable on market price of equity share of banks.
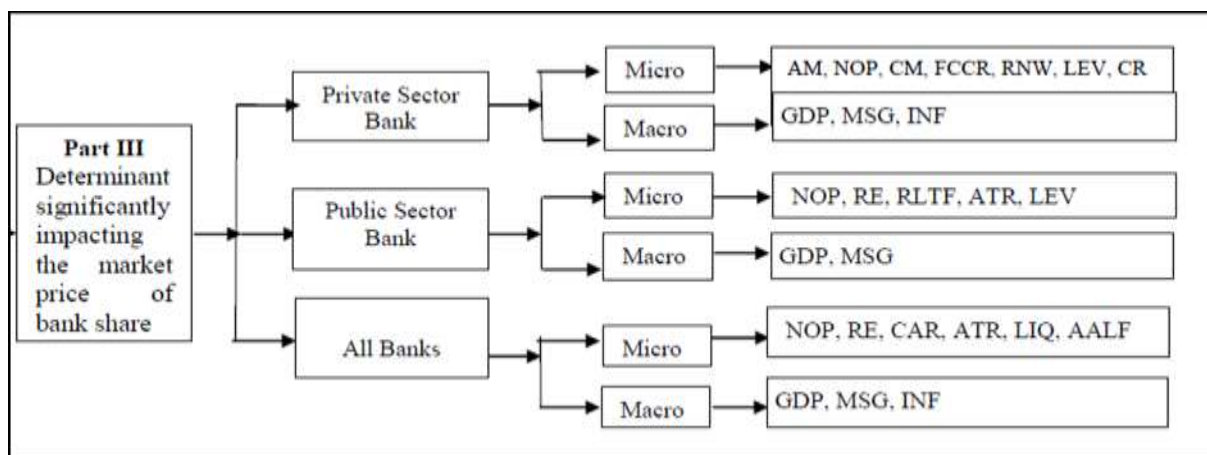
Figure 8. Determinants of bank equity value

In case of Micro Determinants impacting the market price of equity share of Private Sector Banks share FE Model was selected. In above model, the coefficient of constant parameter of the banks shows a positive relation. It is showing the strong Positive significant relationship at 1% significant level. Variables such as, RE, FCCR, RNW, EV, CR, QR, and AALF are showing strong negative relationship and Variables such as AM, NOP, CM, ERR, ATR and Beta has s positive significant relationship are direct proportionally related to dependent variable. AM, NOP, RE, FCCR, RNW, LEV and CR significant relationship.

In case of Macro Determinants impacting the market price of equity share of Private Sector Banks share, in this case Breusch-Pagan test was found significant so RE Model was selected and Hausman test was not significant so RE Model was selected. In above model, intercept is showing the non-significant relationship. All independent variable except BCG are showing significant relationship. Variables MSG is showing negative significant relationship which indicates that this variable is inverse proportionally related to dependent variable market price of bank share. Variables such GDP, and Inflation has strong positive significant relationship are direct proportionally related to dependent variable market price of bank share.

In case of Micro Determinants impacting the market price of equity share of Public Sector Banks share in this case

of Public Sector banks Breusch-Pagan test was found significant so RE Model was selected and Hausman test was significant so FE Model was selected. Determinants such RE, ATR, LEV and LIQ are showing negative relationship which indicates that this variable is inverse proportionally related to dependent variable. Determinants such as AM, NOP, CAR, RLTF, RNW, ERR and Beta has positive relationship are direct proportionally related to dependent variable. NOP, RE, RLTF, ATR and LEV are showing strong significant relationship with Market price of share.

In case of Macro Determinants impacting the market price of equity share of Public Sector Banks share, macroeconomic determinants impacting market price of public Sector Banks Breusch-Pagan test was found significant so RE Model was selected and Hausman test was not significant so RE Model was selected. In above model, intercept is showing the strong negative significant relationship. All independent variable except INF are showing significant relationship. Variables such GDP and MSG has strong positive significant relationship are direct proportionally related to dependent variable market price of bank share.

In case study of impact of micro determinants on all banks market price Breusch-Pagan test was found significant so RE Model was selected and Hausman test was significant so FE Model was selected. It is showing the negative significant relationship with market price. Variables such as RE, RLTF, LIQ, QR, and ATF are showing strong negative relationship which indicates that this variable are inverse proportionally related to dependent variable. Variables such as IS, AM, NOP, CIR, CE, CAR, FCCR, RNW, Beta, CM, ERR and ATR has s positive significant relationship are direct proportionally related to dependent variable. Determinants such as NOP, RE, CAR, ATR, LIQ and AALF is strong significant relationship with market price.

In case of Impact on Macro Determinants on All Banks Market price, Breusch-Pagan test was found significant so RE Model was selected and Hausman test was not significant so RE Model was selected. In above model, intercept is showing the non-significant relationship. All independent variable except BCG are showing non-significant relationship. Variables such GDP MSG and Inflation has strong positive significant relationship are direct proportionally related to dependent variable market price of bank share

Important value driver impacting the shareholder value has been identified as the private sector, public sector and all banks operating in India in above chart. It will help Banks to focus on value drivers and proper selection performance measures will help to improve and strengthen the competitive position of banks and help them to focus on wealth creation. Value is the best metric of performance as it is the only measure that is comprehensive and hence is useful for decision-making. By increasing shareholder value, companies can maximize the value for other stakeholders (customers, labor, government and suppliers) also.

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